

***ALOE CHLORANTHA*: A NEW SPECIES FROM THE SOUTH WESTERN KAROO (SOUTH AFRICA)**

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ABSTRACT

The discovery, in the South Western Karoo of the Cape Province, of a new *Aloe* is reported upon. The plant in question is established as a *species nova* and its affinities are discussed in some detail.

UITTREKSEL

ALOE CHLORANTHA: 'N NUWE SOORT VANAF DIE SUID-WESTELIKE KAROO (SUID-AFRIKA).—Die ontdekking in die Suid-Westelike Karoo van die Kaap-provinsie van 'n nuwe *Aloe* soort word verslag oor gedoen. Die soort word 'n *species nova* geag en sy verwantskap word volledig bespreek.

INTRODUCTION

Towards the end of 1970, Mr. Elias Buhr mentioned to the author the presence, in the Sutherland district, of an *Aloe* which he thought might be undescribed. Specimens of this plant had been brought to him by Mr. W. J. Theron.

On the 6th Sept. 1971, a visit was made to a farm situated some 40 km North-West of Sutherland, where a small number of plants (*Lavranos & Butler* 8877) were found growing among boulders on the Northern slope of a dolerite hill. At a distance these plants reminded one of *A. broomii* Schönl. which, too, is a denizen of dolerite outcrops but which has never been found West of Carnarvon and Beaufort West. Dry inflorescences found near these plants were, however, very different from those of *A. broomii* mainly in that they bore pedicels over 20 mm long and their racemes were much more laxly flowered and occupied only the apical third part of a total length of 1.60 m. It was fairly obvious that we were dealing with something hitherto unrecorded but the absence of flowering material made any diagnosis impossible.

During a visit to Grasberg, near Nieuwoudtville, early in 1972, Dr. B. D. H. van Niekerk, of Randburg, recognised the Sutherland plants growing in Mr. Buhr's garden as apparently the same as an *Aloe* which occurs in some numbers not far South of Fraserburg, on the farm Klipheuwel, property of Mr. O. G. Mans. Dr. van Niekerk had known these plants and been intrigued by them for some years but, not having seen them in flower, he too had been left guessing as to their identity.

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FIG. 1

Plant in typical habitat among dolerite boulders.

It was decided that Dr. van Niekerk and the author should visit the Fraserburg locality when the aloes came into flower. This was done on the 14 Oct. 1972 and Mr. Buhr, Mr. Stayner of the Karoo Garden and Mr. Dumoulin of the Department of Nature Conservation joined the party.

Some of the plants were indeed flowering but, on account of the prolonged drought, most inflorescences had been eaten by thirsty dassies (*Procavia capensis*) as they are very juicy and not too bitter. It was immediately apparent that these aloes represented a hitherto unrecorded species.

A narrow valley between boulder strewn dolerite slopes was the habitat of these plants which were absent from South facing localities and showed a predilection for warm, North facing positions. Vegetatively, they were quite

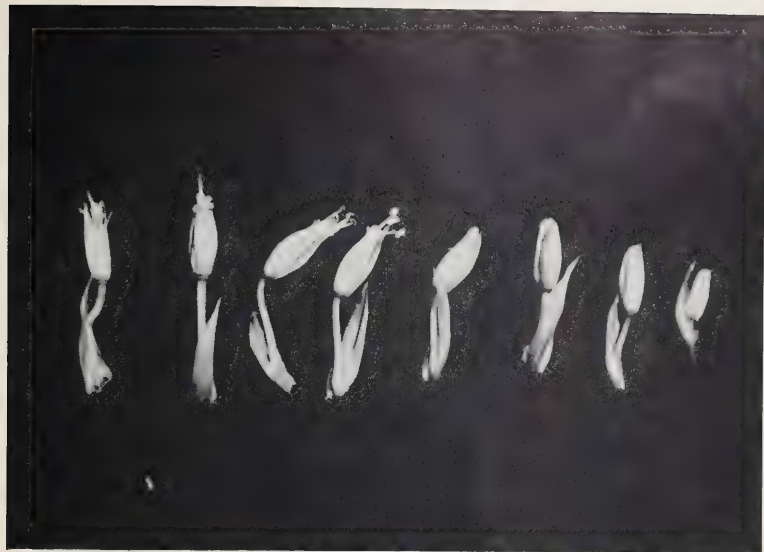


FIG. 2
Flowers 1/1 from bud to post-pollination stage.

indistinguishable from those which had been observed at Sutherland and, here too, they were not at all common.

It was noticed that, after reaching a certain size, the rosettes divide, forming groups of up to 10, although 2 to 4 is a more usual number. Very few young plants were seen and it was found that many of the older specimens had either died or were affected by an insect, the larva of which eats into the centre of the crown of leaves, eventually killing the whole plant.

DESCRIPTION

Aloe chlorantha Lavranos nov. sp., *A. broomii* Schonland affinis sed inflorescentia graciliore, racemis laxiore florentibus, floribus dimidio minoribus, a 20 mm pedicellatis satissime discedit.

Planta perennis, succulenta, acaulis sed saepe caule procumbenti, a 1,50 m longo munita, singularis sed per divisionem in usque a 10 multiplicans; *foliis* rosulatis, deltoideis, acutis, leviter falcatis, a 40 cm longis, basi a 8 cm latis, coriaceis, *supra* sensim vernicosis, planis vel leviter convexus, plus minusve striatis, viridibus vel brunescens, *subtus* facie superiori similibus sed saepe albomaculatis; *marginibus* foliorum cartilagineis fuscis brunneo-rubris, aculeis deltoideis, rigidis, 2 mm longis, 10—30 mm inter se distantibus munitis; *inflores-*



FIG. 3

Portion of raceme showing nutant habit of open flowers.

centiis usque a 3 ex eadem capitem productis, a 160 cm altis, simplicibus sed rarius bifurcatis; *pedunculo* basi plano-convexo, a 20 mm lato, supra tereti, bracteis sterilibus, a 25 mm longis abundanter induto; *racemis* a 35 cm longis, modice densifloris, gemmis juvenibus per bracteas earum occultis, floribus apertis nutantibus; *bracteis* 12 a 20 mm longis, 5—8 mm latis, ovatis deltoideis, acutis, carnosis, flavo-viridibus, multinerviis; *pedicellis* teretibus, 15—22 mm longis, semper erectis et pedunculo quasi adpressis; *perigonii*s ventricosis, stipitatis, flavo-viridibus, 10 mm longis, 4 mm diam., segmentibus exterioribus usque a basin liberis, flavo-viridibus, nervis 6—8, laete viridibus, apice confluentibus, per longitudinem percursis, segmentibus interioribus ad exteriores similibus sed angustioribus; *filamentis* flavescentibus, antheris aurantiacis deinceps per 3 mm exsertis; *stylo* flavo, stigmati aetate per 4 mm exserto; *ovario* laete viridi.

Type material: Cape Province, 3121 CD (Fraserburg), on dolerite outcrops on the farm Klipheuwel, alt. appr. 1 400 m, *Lavranos* 10024 (PRE, holotype).

Plants perennial, succulent, stemless or often with a procumbent stem up to 1,50 m long, solitary or splitting into up to 10 rosettes; *leaves* rosulate, deltoid, acute, slightly facate, to 40 cm long, to 8 cm broad at base, leathery; upper surface almost vernicose, flat or slightly convex, more or less striate,

bright green shading into purplish; lower surface similar to the upper but often bearing white spots; margins cartilaginous, dark brown-red, armed with rigid, deltoid, sharp, dark brown-red teeth, which are 2 mm long and 10—30 mm distant; *inflorescences* up to 3 from each rosette, to 1,60 m high, simple or rarely forked; *peduncle* basally plano-convex and to 20 mm broad, terete above, covered with numerous deltoid, acute sterile bracts, up to 25 mm long; *racemus* to 35 cm long, moderately dense, the young buds covered by their bracts, the open flowers nutant; *bracts* 12 to 20 mm long, 5—8 mm wide, ovate deltoid, acute, fleshy, yellow-green, many-nerved; *pedicels* terete, 15—22 mm long, always erect and almost hugging the peduncle; *perianth* conspicuously small, only 10 mm long, 4 mm diam. at the middle, stipitate, narrowing to the mouth and tapering into the pedicel, yellow-green, the outer segments free to base, bearing 6—8 bright green, apically confluent, longitudinal nerves, the inner segments similar but apparently narrower than the outer; *filaments* yellowish, the orange anthers in turn exerted by 3 mm; *style* yellow, the stigma at length exerted by 4 mm; *ovary* bright green.

DISCUSSION

The closest relative of this new species seems to be *Aloe broomii* Schonl.—In both, the simple or rarely bifurcate peduncle is covered, virtually from the base up, by numerous, large sterile bracts which, like the floral ones, are rather fleshy. This character is met with in other South African species of *Aloe*, notably *A. glauca*, *A. pratensis*, *A. microstigma*, *A. comosa* etc. In *A. broomii* the raceme occupies well over one half of the total length of the inflorescence, while in *A. chlorantha* it is not longer than one third of the whole. The buds in both species are covered by the imbricate bracts but, in *A. chlorantha*, the conspicuously small flowers, when open, are entirely free and nodding, their pedicels, at 20 mm, being twice as long as the perianths and as long, at least, as the bracts. In *A. broomii*, the 20—25 mm long flowers are hidden by the bracts and face obliquely upward, the pedicels not being longer than 2 mm. Finally, in the new species, the anthers and stigma become exerted only by 3—4 mm, whereas in its relative they do so by 12—15 mm.

The rosettes of *Aloe chlorantha* have fewer leaves than those of *A. broomii*. The leaves of the latter are never spotted as they often are, on the lower surface only, in the new species where they are, moreover, lineate and very smooth, indeed almost vernicose as in some tropical species of *Aloe*.

Mr. Stayner suggests a certain resemblance between *A. chlorantha* and the decumbent form of *A. microstigma* Salm Dyck which is found in the Sutherland and Calvinia districts. The flowers, however, of this form in no way resemble those of the Fraserburg plants.

If flowers and inflorescence be a guide, a much closer relationship may exist between our species and *A. comosa* Marl. & Berger despite their widely differing appearance. Both species have, as a rule, simple inflorescences with copiously bracteate peduncles and large floral bracts which hide the buds. Their flowers are almost identical, proportions being guarded. It is possible that this relationship be as close as the more apparent one with *A. broomii*.

The reader may find it interesting to note that the type locality of *A. chlorantha* is only a few kilometres distant from that of Burchell's *A. claviflora*.

In the western portion of its range, *A. chlorantha* receives more than half of the rainfall in winter (April to October). At Fraserburg, the eastern limit, only one third of the total precipitation occurs in these months. The area North of Sutherland, where the new species was first found, gets about 200 mm of rain per annum while the corresponding quantity at Fraserburg is 165 mm.

It has been suggested by some that *Aloe chlorantha* might be of hybrid origin but this betrays total ignorance of hybridisation and its effects. The new species is wholly constant throughout its range, both in floral and vegetative characters. This is incompatible with the behaviour of a putative hybrid swarm. Furthermore, a hybrid presupposes the existence of two parent species. No *Aloe*, other than *A. claviflora* grows anywhere near *A. chlorantha* and is limited to the easternmost portion of the latter's range.

Shortly before his untimely death, Dr. G. W. Reynolds told the author that, in his view, there were far too many ill defined taxa among S. African aloes and that, were he to re-write his first book, he would reduce their numbers considerably. In this respect, too, *A. chlorantha* is a "good" species for, when in flower, its identity cannot be mistaken, whether in nature or in a garden. With its small, green flowers it is neither a beautiful nor a conspicuous plant, which would account for its late discovery.

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